CONSTITUENT FACTORS AND DESIGN DEVELOPMENT

OF CULTURAL PRODUCT

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ABSTRACT

This article aims to explore constituent factors and design development of cultural product. First, the investigation was conducted by means of literature review and in-depth interviews. Qualitative research program NVivo9.0 was used to identify important coding based on grounded theory, and in turn the design development factors of cultural product. Finally for the subject of the study, a cultural product design development pattern was built according to study results and integration of data from literatures and theories. The study results showed: (1) there are three major types of topics in cultural produce design, "design procedures and methods or model establishment, formation and development of conceptual methods, and research theories; and (2) the constituent factors of cultural product design consist of the "implicit dimensions," including the idea of emotions, cultural story and experience of life, and "explicit dimensions," including use of materials, image symbols, forms and patterns, manufacturing techniques and product function; and (3) the pattern of cultural product design development comprises 5 stages, "establishment of cultural topics and element analysis," "establishment of targets and design specifications," "compilation of cultural elements and attributes of corresponding products," "dispersion of design concepts and conversion of context manipulation" and "consumer preference survey and product development;".

KEYWORDS: Cultural Product, Design and Development, Factor

INTRODUCTION

The cultural products developed for Taiwanese market currently are mostly based on image authorization as a design method. They are reproduced by imitation and duplication. This process creates direct association with culture but lacks in creative presentation and fun, not to mention that it confines the degree of freedom for designers on the appearance design of products (Chang & Chuang, 2011). Furthermore, the presentation of cultural meanings is often overlooked in the morphological simulation or transfer of patterns, thus unable to improve culture of life through design efforts (Lin, 2005). Thus, the study started from the sectors of industry, government and academics. Qualitative methods were introduced for field survey. NVivo9.0, a Computer Assisted Qualitative Data Analysis Software (CAQDAS), was used for qualitative data analysis. The focus of study was placed on the factors to be manipulated in cultural product design and issues encountered during product development. This not only allowed the identification of the constituent factors of cultural products, but also provided the key points for industrial sector to think about in cultural product design and development. As a result, three subjects were established based on the research background and motivation mentioned above: (1) the integration of fundamental framework theory for cultural product design and development through documentary data collection and analysis; (2) compilation of important coding using the NVivo9.0 program and data collected from field interviews for the

investigation of constituent elements of cultural product design and development; and (3) generation of coding from analysis using computer program for meticulous development of important conclusion with information gathered and establishment of cultural product design development pattern for clear knowledge of product development context and constituent factors.

LITERATURE REVIEW

Cultural Products Design

Facing globalization, the spreading of culture triggers reflection and identification of people on their culture, and also drives designers to come up with product designs with distinct identity and cultural characteristics using the difference between his/her own culture and others (Lin, 2009). Therefore, the rich contents of local culture become the source of designers' inspiration from which designers extract cultural elements and convert them into symbols or presentation using design methods for infusion into products and conveyance of cultural values (Moalosi & Popovic & Hickling, 2010). Through the analysis of literature compilation, the meaning of cultural product is: a cultural product is created from the cultural factor in cultural objects (Lin, 2009). A new form that meets modern time is searched after a series of reviews and reflections, and through products as media, life experience of the past and historic memories are connected with and passed down to modern life. This unique characteristic is where the largest difference between cultural products and ordinary products lies (Ho & Lin & Liu, 1996).

Discussion on Methodology of Cultural Product Design

Reports with the topics of cultural product design were collected extensively and grouped into 3 categories based on study attributes, methods and application characteristics, as shown in Table 1. Overall, cultural product design methods talk mostly about design procedures or model development, and a number of researchers propose the use of cultural product design patterns. Furthermore, for the dispersion and expansion of conceptual methods, "user-oriented" basic principles were used and the characteristics of users, events products or environmental relations were incorporated during design and development process for the effective establishment of connections between users and products and the design of cultural products that touch the users' hearts. As for theory of study, literature review and in-depth interview were introduced for investigation and establishment of theories. For this, the investigation of cultural product design methods was divided into: assistance in developing a method of production, establishment of design models, focus on the dispersion and expansion of concepts and the procedural method that guides the designs through the design process.

METHODOLOGY

Study Procedure and Method

The study was conducted in 3 stages. In stage 1, documentary analysis, which is a qualitative research method, was used to investigate and establish theoretical foundation; in stage 2, in-depth interviews and investigation were performed on individual cases of creative life industry; and finally in stage 3, NVivo9.0 was used for grounded coding analysis of interview contents and documentary data, as to dissect the constituent elements of cultural product design, develop models of cultural product design and identify the development context and constituent factors of product.

Subjects of Interview

For the purpose of this study, the subjects of interview were selected from firms in the creative life industry approved by government based on news media reports and how they run their business in a characteristic way unique to

themselves. The subjects selected were Singang Incense Artistic Culture Garden, Dragonfly Beads Art Studio, Shatao Dance and Glass Workshop, Yaxianbao at Sanyi, Bantaoyao – Carfts Studio of Jiao-Zhi Pottery, Old Ben Kang Ceramic Arts Studio. The information of these interview subjects are shown in Table 2.

Design of Interview Questions and Scale

Structured and semi-structured interview techniques were adopted for in-depth interviews. Standardized interview procedure and open interview model were introduced for the investigation and evaluation. The design of interview questions and scale was performed in two stages. Stage 1, "semi-structured interviews," led interviewees into the topic of interview and investigated the recognition and development of cultural products. This part (in three parts and 10 questions) was achieved by adopting the scale questions developed by Sun (2005) in her study on creation end and consumer end. Stage 2, "structured and semi-structured interviews," went deeper into the core issues in the attempt to identify the problems the individual cases had during design and development of cultural products and business running. Finally the questions were finalized (26 questions covering 2 aspects) for in-depth interviews. The interviews were summarized as shown in Table 3.

Table 1: Summarization of Cultural Product Design Topics

Type	Study Method / Authors
Design procedure/ method or model establishment	Self-developed cultural product design procedure / (Hsu, & Rung, 2011)
	KJ method, focus group, in-depth interview /(Chang & Chuang, 2011)
	In-depth interview / (Chen & Chen, 2011)
	Cultural product design pattern, cultural characteristic change model, culture-oriented design model /(Moalosi et al., 2010)、(Lin, 2009)、(Lin, 2007)
Conceptual method dispersion and expansion	Metaphorical method, associative forced relationship of formative elements, associative connection method, doctrine of form and spirit in painting, Gestalt-oriented approach/ (Hung & Jui, 2011)、(Hsieh & Shing, 2011)
Research theories	In-depth interview, literature review, cultural difference pattern, design model for social economic culture / (Ju & Ming, 2011)、(Chen、Chen & Chea, 2011)

Table 2：Background of Interviewees / Documentary Data Coding

Interviewee / Coding	Study Method	Content of Interview / Survey	
Mr. R / R	In-depth interview	Cultural product design and development, ways to run their business	
Miss O / O	In-depth interview	Cultural product design and development, ways to run their business	
Mr. S / S	In-depth interview	Cultural product design and development, ways to run their business	
Mr. W / W	In-depth interview	Cultural product design and development, ways to run their business	
Mr. T / T	In-depth interview	Cultural product design and development, ways to run their business	
Miss Y / Y	In-depth interview	Cultural product design and development, ways to run their business	
Documentary data	Documentary analysis	Cultural product design, design and development methods. More than 20 articles and literatures in total.	
Open coding code	e.g. A1.1	axial coding code	e.g. A1

Table 3：Interview Questionnaire

Stage 1: Cultural Product Perception and Development		
Question	**Interview Outlines**	**Question Basis**
Interviewee information	1. What position do you have currently in the company you work for? How long have you been working for it? And what are you in charge of?	Compilation of Sun(2005) and this research
Cultural product perception	2. Please provide your opinion of a cultural product in terms of what characteristics a cultural product should have? 3. What do you think the value of cultural product lies on? 4. (Continued on Q3) What is the value to general consumers? 5. Does your company consider that consumers' needs are a key element of cultural product design? 6. As far as you can tell, what are the key considerations of consumers to buy cultural products?	
Future development of lifestyle/cultural products	7. It is now a trend that a product's value is improved with cultural elements as part of design essence. Do you think that is related to the lifestyle of modern people? And why? 8. Do you think that a cultural product starts from consumers' needs or from educating or conveying a message to consumers? 9. With the efforts of government policies injected on cultural and creative industry and creative life industry, what assistance do you think the cultural product industry will be given? And is there any difficulty? 10. What is the influence of governmental sector and what role would you like them to play?	
Stage 2: Cultural and Creative Product Design and Development		
Dimension	**Level**	**Question**

Dimension	Level		Question
Cultural and Creative Product Design and Development	Product introduction		1. Cultural and creative product development (items)、2. Target consumer groups、3. Price
			4. Current methods of marketing and promoting
	Product process	Upstream – creative R&D	5. Creative design elements、6. Source of creativity generation
			7. Mechanism of creativity generation、8. Difficulty of creativity generation
			9. How products are produced
		Middle stream – Production process	10. Materials used for products、11. Types of products developed
			12. Product manufacturing process、13. Creation of product series
			14. Units for counting products、15. Production mechanism、16. Production difficulty
		Downstream – sales	17. Primary markets、18. Annual profits or losses、19. Marketing difficulty
			20. Future marketing strategies
General Discussion			21. Current difficulty of business running、22. Costumer management、23. Industrial strengths over competitors、 24. Commercialization plan、25. Product production plan、26. Future development plan

RESULTS AND DISCUSSIONS

As shown in the results of literature reviews and NVivo9.0 coding analysis, the "implicit dimensions of cultural product design" consisted of the idea of emotions, cultural story and experience of life; whereas the "explicit dimensions" comprised the use of materials, image symbols, forms and patterns, manufacturing techniques and product function. The coding analysis outcome is shown in Table 4. The procedures that made each of the items possible are described as follow.

Table 4: Coding Analysis of Cultural Product Design

Element	Axial Coding	Open Coding
Implicit Dimensions	A1 Idea of emotions	A1.1 Collection of memories
	A2 Cultural story	A2.1 Use of historic stories
	A3 Experience of life	A3.1 Symbolic meaning of local characteristics、A3.2 Common practice of life
		A3.3 Following and passing down wisdom of life
Explicit Dimensions	A4 Use of materials	A4.1 Use of local materials for creation、A4.2 Combined use of materials of various natures

		A4.3 Imitation and simulation of materials
	A5 Image symbols	A5.1 Physical images rich in local recognitions
	A6 Forms and Patterns	A6.1 Use of physical artifacts、A6.2 Use of text forms、A6.3 Use of cultural totems
		A6.4 Use of image licenses
	A7 Manufacturing Techniques	A7.1 Giving a style/pattern to contemporary design、A7.2 Combination with modern technology、A7.3 Presentation of traditional craftsmanship in products
	A8 Product Function	A8.1 Practical functions、A8.2 More decorative effects than practicality、A8.3 Product recognition、A8.4 Product uniqueness

ANALYSIS OF CULTURAL PRODUCT DESIGN ─ IMPLICIT DIMENSIONS

Idea of Emotions

It was learned from the interviews that cultural emotions trigger ideas in a designer and create the recognition and resonance between products and consumers. They make us think deeper into the design contents and meanings of a cultural product based on culture and with the core of emotions. These descriptions show the relation between the "emotional effects and passing down" in cultural products. Its meaning was determined through selective coding and named "A1 idea of emotions" as a dimension.

Cultural Story

In a simple term, a cultural product, as indicated in a number of literatures and arguments, is the infusion of cultural stories into a product in multiple ways that allows the product to tell the stories, triggers resonance and in turn recognition in costumers and enable the passing down and interactions of cultural meanings in the trading of products. Therefore, the cultural contents and meanings mentioned in the interviews have their own stories and cultural natures and they have great connections with local life and culture. After summarizing the results of documentary analysis and interviews, a dimension was named "A2 cultural stories" after selective coding.

Experience of Life

Moalosi [21, 27] mentioned that culture is the accumulation of "experience of life" and has abundant depth that allows people to explore. Cultural products will be able to communicate and interact with consumers who have the same language through education, thus achieving the heritage of culture. The overall meaning of coding was related to experience of life, and therefore the overall dimension was named "A3 experience of life."

ANALYSIS OF CULTURAL PRODUCT DESIGN — IMPLICIT DIMENSIONS

Use of Materials

For a model to have the desired texture, it requires the use of proper material. What possible help can be provided for product design if we consider culture from the perspective of materials? It is found that some materials themselves have historic emotions that can create and trigger the association of experience. The meaning of overall coding suggested that the contents of this part were related to materials. Hence, the selective coding was "A4 use of materials" after integration.

Image Symbols

In the dimension of image symbols, Miss Y pointed out: "a traditional totem remains unchanged regardless people or time, because it has a historic background and spiritual implication." It was learned from this that this topic was related

to images or totems, and thus the coding was simplified as "A5.1 physical images rich in local recognitions," and the selective coding was "A5 image symbols."

Forms and Patterns

The form or pattern of a cultural product can be multiple or evolving. However, designers have to make proper judgments on the relation between conversion and preservation of cultural essence and how to evaluate the balance in the conversion of the contents of a cultural product based on their professional experience and sense of beauty. The overall meaning of coding was related to the use of forms and totems, and the selective coding was named "A6 forms and patterns" after integration.

Manufacturing Techniques

The design and use of cultural products presented the forms and patterns rich in cultural characteristics through the methods of product development and design innovation, and allowed consumers to know the features of traditional culture via the use in daily life. The overall meaning of coding was related to the use of development techniques, and the selective coding was named "A7 manufacturing techniques".

Product Function

Looking at the function perspective of cultural products helps make a connection between the functions of product and life experience of the past and facilitates the consideration of how to close up the distance between culture and life under the needs of different functions. The key is to elevate the functional level of product as far as a design is concerned. The interviews showed the needs of consumers are the key design consideration during the design and development of a cultural product. The overall meaning of coding was related to the use of development techniques, and the selective coding was named "A8 product function."

CULTURAL PRODUCT DESIGN AND DEVELOPMENT PATTERN

This pattern was established on the factors of cultural product design developed in this study and the procedure used for product design and development, and combined with the framework proposed by Hsu [2] in "A Study on Cultural Product Design Process (e.g. Figure 1)." The framework of this pattern consisted of the process of product design and development as the horizontal axis and two aspects of recognition of consumption expectation and recognition of design behaviors. It was further separated into 5 stages and 10 steps, which constitute a cultural product design and development pattern for designers. In sum, Stage 1 is to identify the basis on which the product design is founded; Stage 2 is to establish design guidelines from the consumers' point of view; Stage 3 is to prevent in detail the process of extracting cultural elements and correspond to their attributes; Stage 4 is the conversion and application of cultural characteristics and the realization of design; and Stage 5 is the development and production of cultural products.
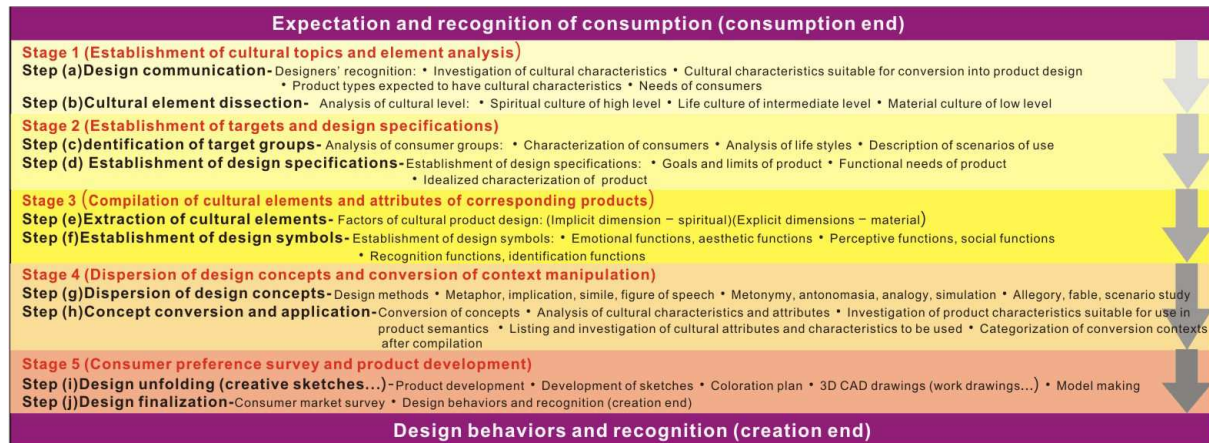
Figure 1: Cultural Product Design and Development Pattern

CONCLUSIONS

The study results indicated that:

- There are three major types of topics in cultural produce design, "design procedures and methods or model establishment, formation and development of conceptual methods, and research theories.

- The constituent factors of cultural product design consist of the product's "implicit dimensions," such as the idea of emotions, cultural story and experience of life, and "explicit dimensions," including use of materials, image symbols, forms and patterns, manufacturing techniques and product function.

- The pattern of cultural product design development comprises 5 stages, "establishment of cultural topics and element analysis," "establishment of targets and design specifications," "compilation of cultural elements and attributes of corresponding products," "dispersion of design concepts and conversion of context manipulation" and "consumer preference survey and product development;"

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